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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DAO, THUY CHAN

ART UNIT

PAPER NUMBER

2192

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/749,617	NIKOLOV, NIKOLAI G.	
	Examiner	Art Unit	
	Thuy Dao	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-28 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) 35-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-28 and 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/17/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on December 17, 2007 has been entered.

2. Claims 1-11, 13-28, and 30-34 have been examined.

Information Disclosure Statement

3. The Office acknowledges receipt of the Information Disclosure Statement filed on December 17, 2007. It has been placed in the application file and the information referred to therein has been considered by the examiner.

Response to Amendments

4. Per Applicant's request, claims 1, 11, 13, 15, 17-18, 28, 30-31, and 34 have been amended and claims 35-43 have been canceled.

5. The objection to claims 1, 13, 17-18, 30, and 34 is withdrawn in view of Applicants' amendments.

6. The 35 USC §112, second paragraph rejection over claims 35-43 is withdrawn in view of Applicants' amendments.

7. The 35 USC §101 rejection over claims 35-43 is withdrawn in view of Applicants' amendments.

Claim Objections

8. Claims 1 and 18 are objected to because of minor informalities:

In line 11, the phrase is considered to read as - "... an identifier of said plug-in module;- - (as previously recited in lines 8-10);

In line 27, the phrase is considered to read as - "... of said plug-in module;[[:]]- -; and

In lines 33-36, the phrase considered to read as - - ... wherein said classfile ... that perform a) and f) above.- - as similarly recited in claim 18.

Response to Arguments

9. Applicant's arguments have been fully considered. After further and careful consideration, the examiner notes that Avakian and APA also teach new limitations as applied in details below.

Claim Rejections – 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-3, 5-11, 13-20, and 22-28, and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avakian (art of record, US Patent Publication No. 2005/0039171 A1) in view of APA (art of record, Admitted Prior Art).

Claim 1:

Avakian discloses an article of manufacture and *a method, comprising: in an object oriented run-time environment, after a classfile has been loaded* (e.g., FIG. 3, class C' has been instrumented and loaded by Class Loader 30, [0060], [0064]):

a) invoking a second method from a first method (e.g., FIG. 7, second method as item 702, first method as item 700, [0096-0097]),

said first method belonging to said classfile (e.g., FIG. 7, said first method "public TradeResult buy(String string, int i)" belongs to said classfile, which has been instrumented and loaded at class-load time, [0095], [0097-0098]),

said invoking comprising providing an identification of said first method and said classfile (e.g., FIG. 7, second method 702 comprising an identification of said first method and said class as illustrated in FIG. 10, items 1002 and 1004, [0113] and FIG. 9, items 900 and 920, [0110-0111]),

said second method belonging to a component (e.g., FIG. 7, said second method 702 belonging to component BIP 38 as in FIG. 3, [0060] and [0067]-[0068]),

said classfile having previously registered with said component (e.g., FIG. 8A, blocks 800-812, said classfile 700 registered with said component BIP 38 as \$BIP\$buy 701, [0099]-[100]);

***b)** said component performing said second method to identify a plug-in module for said first method based upon said identification (e.g., FIG. 7, said component BIP 38 performing said second method 702 and identifying a plug-in module \$BIP\$hook.reportArg),*

said plug-in module to implement a handler method (e.g., FIG. 13C, said plug-in module \$BIP\$hook.reportArg to implement a plurality of handler methods as in FIG. 13D),

said component returning to said first method an identifier of said plug-in module (e.g., FIG. 7, from item 702, said component BIP returning "object" 726; item 730 "if (object != null)" → using "object" 726 as an identifier of said plug-in module \$BIP\$hook.reportArg, [0098], [0065]-[0066]);

***c)** invoking said plug-in module from said first method to execute said handler method to report and/or record information about said first method (e.g., page 4, [0065-0066]);*

said information including at least an argument included in said first method (e.g., FIG. 7, items 708 and 710); and

***d)** executing said first method from a point beyond where said second method was invoked (e.g., FIG. 7, after executing second method 702 at line 8, executing 700→714→701, which is the first method belonging to said class C', [0095-0098]),*

e) a third method (e.g., [0046], [0095], [0010-0011], eBusiness transactions in on-line shopping, buying another/other item(s) in a shopping cart);

f) invoking a second method from said third method (e.g., FIG. 7, second method as item 702, third method as item 700, [0096-0097]); FIG. 7, said third method "public TradeResult buy(String string2, int i2)" belongs to said classfile, which has been instrumented and loaded at class-load time, [0095], [0097-0098]),

said invoking comprising providing an identification of said third method and a second classfile that said third method is a part of (e.g., FIG. 7, second method 702 comprising an identification of said first method and said class as illustrated in FIG. 10, items 1002 and 1004, [0113] and FIG. 9, items 900 and 920, [0110-0111]),

said second classfile having previously registered with said component (e.g., FIG. 8A, blocks 800-812, [0099]-[0100]);

g) said component performing said second method to identify said plug-in module for said third method based upon said third method and second classfile identification (e.g., FIG. 7, BIP 38 performing 702 and identifying \$BIP\$hook.reportArg)

said component returning to said third method an identifier of said plug-in module (e.g., FIG. 7, returning "object" 726, [0098], [0065]-[0066])

h) invoking said plug-in module from said third method to execute said handler method to report and/or record information about said third method (e.g., page 4, [0065-0066])

said information including at least an argument included in said third method (e.g., FIG. 7, items 708 and 710); and

i) executing a portion of said third method from a point beyond where said second method was invoked from said third method (e.g., FIG. 7, after executing second method 702 at line 8, executing 700→714→701, which is the first method belonging to said class, [0095-0098]),

wherein said classfile and said second classfile were both modified, prior to their respectively being said loaded, with additional bytecode instructions that

perform a) and f) above (e.g., FIG. 2, Bytecode Instrumentation Controller BIC, [0054-0059]; FIG. 3, Bytecode Instrumentation Program BIP, [0060-0072]).

Avakian does not explicitly disclose flowing from said first method to a third method; said second classfile having been loaded at least by the completion of said flowing from said first method to said third method.

However, in an analogous art, APA further discloses:

after a classfile has been loaded (e.g., [0005-0006]):

invoking a second method from a first method; said first method belonging to said classfile (e.g., FIG. 1D, [0012-0014], first method as method_1 205 belonging to classfile object_1 201);

flowing from said first method to a third method (e.g., a third method as either method_2 206, method_3 207, or method_4 208, [0010-0012]);

a second classfile that said third method is a part of (e.g., still FIG. 1d, each third method is a part of a corresponding classfile, [0007-0009]);

said second classfile having been loaded at least by the completion of said flowing from said first method to said third method (e.g., [0011], [0014-0018]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine APA's teaching into Avakian's teaching. One would have been motivated to do so to apply prior art runtime flow in an online sale environment as suggested by APA (e.g., [0014], [0005-0006]) as well as in a eBusiness transactions such as on-line shopping including shopping cart as suggested by Avakian (e.g., [0010-0012], [0046]).

Claim 2:

The rejection of claim 1 is incorporated. Avakian also discloses *said executing of said handler method at c) above causes an entry time for said first method to be recorded (e.g., page 11, [0144]).*

Claim 3:

The rejection of claim 1 is incorporated. Avakian also discloses *said executing of said handler method at c) above causes an exit time for said first method to be recorded* (e.g., page 11, [0145]).

Claim 5:

The rejection of claim 1 is incorporated. Avakian also discloses *said executing of said handler method at c) above causes an input parameter value of said first method to be recorded* (e.g., page 4, [0065]).

Claim 6:

The rejection of claim 1 is incorporated. Avakian also discloses *said executing of said handler method at c) above causes a returned value of said first method to be recorded* (e.g., page 4, [0066]).

Claim 7:

The rejection of claim 1 is incorporated. Avakian also discloses *said first method is a constructor* (e.g., page 5, [0073]).

Claim 8:

The rejection of claim 1 is incorporated. Avakian also discloses *creating, prior to said invoking at a) above, an object having an input parameter value of said first method* (e.g., page 4, [0065]).

Claim 9:

The rejection of claim 1 is incorporated. Avakian also discloses *said invoking at a) above further comprises providing an input parameter value of said first method* (e.g., page 4, [0064]).

Claim 10:

The rejection of claim 1 is incorporated. Avakian also discloses *said invoking at a) above further comprises identifying where said first method's instructions can be found in memory (e.g., page 4, [0065]).*

Claim 11:

The rejection of claim 1 is incorporated. Avakian also discloses *after said executing said first method from a point beyond where said second method was invoked but before said flowing to said third method at e) above,*

invoking a fourth method from said first method because said first method is about to reach an exit point, said second method having been invoked from said first method because an entry point of said first method had just been reached, said component having said fourth method (e.g., [0051], [[65]-[0066]);

re-identifying said plug-in module for said first method as a consequence of said invoking a fourth method (e.g., page 3, [0051]; page 4, [0065]);

re-executing said handler method to report and/or record information about said first method; and executing a remaining portion of said first method through said exit point (e.g., page 5, [0066]).

Claim 13:

The rejection of claim 1 is incorporated. Avakian also discloses *identifying a second plug-in module for said third method based upon said third method and second classfile identification, said second plug-in module containing a second handler method (e.g., page 3, [0051]).*

Claim 14:

The rejection of claim 13 is incorporated. Avakian also discloses *executing said second handler method to report and/or record different information about said third method than what said first handler method reports and/or records about said third method (e.g., page 4, [0065]).*

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Claim 15:

The rejection of claim 14 is incorporated. Avakian also discloses *a first object is called to execute said first method and a second object is called to execute said fourth method* (e.g., page 5, [0066]).

Claim 16:

The rejection of claim 15 is incorporated. Avakian also discloses *said object oriented run-time environment is a Java object oriented environment* (e.g., page 3, [0051]).

Claim 17:

The rejection of claim 1 is incorporated. Avakian also discloses *said invoking at a) above further comprises providing said first method's signature, said first method's signature comprising: said identification of said first method; said identification of said class that said first method is a part of; and said first method's arguments* (e.g., page 4, [0064]).

Claims 18-20, 22-28, and 30-34:

Claims 18-20, 22-28, and 30-34 recite the same limitations as those of claims 1-3, 5-11, and 13-17, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 18-20, 22-28, and 30-34.

12. Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avakian, APA, and further in view of Hibbeler (art of record, US Patent No. 7,093,234 B2).

Claim 4:

The rejection of claim 1 is incorporated. Neither Avakian nor APA explicitly disclose *said executing of said handler method at c) above causes a counter maintained for said first method to be incremented*.

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However, in an analogous art, Hibbeler further discloses *said executing of said handler method causes a counter maintained for said first method to be incremented* (e.g., col.8: 6-10).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine the teaching of Hibbeler into that of Avakian and APA. One would have been motivated to do so to profile suspected hot spots or bottlenecks in the target application as suggested by Hibbeler (e.g., col.3: 11-35).

Claim 21:

The rejection of claim 18 is incorporated. Claim 21 recites the same limitations as those of claim 4, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claim, it also teaches all of the limitations of claim 21.

Conclusion

13. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR

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only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/T Dao/

/Tuan Q. Dam/

Supervisory Patent Examiner, Art Unit 2192